

§ 25.1709 System safety: EWIS.

Each EWIS must be designed and installed so that:

(a) Each catastrophic failure condition—

- (1) Is extremely improbable; and
- (2) Does not result from a single failure.

(b) Each hazardous failure condition is extremely remote.

§ 25.1711 Component identification: EWIS.

(a) EWIS components must be labeled or otherwise identified using a consistent method that facilitates identification of the EWIS component, its function, and its design limitations, if any.

(b) For systems for which redundancy is required, by certification rules, by operating rules, or as a result of the assessment required by § 25.1709, EWIS components associated with those systems must be specifically identified with component part number, function, and separation requirement for bundles.

(1) The identification must be placed along the wire, cable, or wire bundle at appropriate intervals and in areas of the airplane where it is readily visible to maintenance, repair, or alteration personnel.

(2) If an EWIS component cannot be marked physically, then other means of identification must be provided.

(c) The identifying markings required by paragraphs (a) and (b) of this section must remain legible throughout the expected service life of the EWIS component.

(d) The means used for identifying each EWIS component as required by this section must not have an adverse effect on the performance of that component throughout its expected service life.

(e) Identification for EWIS modifications to the type design must be consistent with the identification scheme of the original type design.

§ 25.1713 Fire protection: EWIS.

(a) All EWIS components must meet the applicable fire and smoke protection requirements of § 25.831(c) of this part.

(b) EWIS components that are located in designated fire zones and are used during emergency procedures must be fire resistant.

(c) Insulation on electrical wire and electrical cable, and materials used to provide additional protection for the wire and cable, installed in any area of the airplane, must be self-extinguishing when tested in accordance with the applicable portions of Appendix F, part I, of 14 CFR part 25.

§ 25.1715 Electrical bonding and protection against static electricity: EWIS.

(a) EWIS components used for electrical bonding and protection against static electricity must meet the requirements of § 25.899.

(b) On airplanes having grounded electrical systems, electrical bonding provided by EWIS components must provide an electrical return path capable of carrying both normal and fault currents without creating a shock hazard or damage to the EWIS components, other airplane system components, or airplane structure.

§ 25.1717 Circuit protective devices: EWIS.

Electrical wires and cables must be designed and installed so they are compatible with the circuit protection devices required by § 25.1357, so that a fire or smoke hazard cannot be created under temporary or continuous fault conditions.

§ 25.1719 Accessibility provisions: EWIS.

Access must be provided to allow inspection and replacement of any EWIS component as necessary for continued airworthiness.

§ 25.1721 Protection of EWIS.

(a) No cargo or baggage compartment may contain any EWIS whose damage or failure may affect safe operation, unless the EWIS is protected so that:

(1) It cannot be damaged by movement of cargo or baggage in the compartment.

(2) Its breakage or failure will not create a fire hazard.

(b) EWIS must be designed and installed to minimize damage and risk of